Weldon Spring Site
WSSRAP Water Treatment

FACT SHEET

This fact sheet provides information developed by the former WSSRAP Community Relations Department to provide comprehensive descriptions of key activities that took place throughout the cleanup process at Weldon Spring, Missouri. This site is managed by the U.S. Department of Energy Office of Legacy Management.

Since dewatering at the Weldon Spring Site began in 1992, more than 290 million gallons of contaminated water have been treated and released into the Missouri River from two similar water treatment facilities at the site and the nearby Quarry.

On September 30, 1999, dewatering efforts at the Chemical Plant site were completed, meeting one of the most substantial milestones of the project and bringing to an end a part of history that was started nearly 5 decades ago.

From 1955 to 1966, uranium ore was processed at the U.S. Atomic Energy Commission's Uranium Feed Materials Plant. The ore was processed in a nitric acid solution that separated the uranium from other chemicals. The by-product, called raffinate, was neutralized with lime then placed in four settling basins, called raffinate pits. Over the years, rainwater that filled the pits became contaminated. A major part of the site's remediation process was to remove and treat the water from the pits so the raffinate waste could be removed, stabilized, and placed in the disposal cell.

The dewatering process began in 1992 with the development of the mobile sump-water treatment plant, the site's first water treatment facility. It operated through 1995, assisting in the demolition of 44 buildings and structures on site by pumping and treating water from each building's sump area.

The quarry water treatment plant became operational in fall 1992 and began pumping and treating water from the 9-acre limestone Quarry. The first batch of treated water from this plant was released in November 1992. Decommissioning at the plant began in January 2001. Dismantling operations began in March 2001. The final remnants of the plant were placed in the disposal cell in June 2001. During its operation, the plant treated 70 million gallons of contaminated water.

The site water treatment plant became operational in April 1993. The plant was constructed for two separate operations. Train 1 was designed to treat run-off from temporary storage areas and water from decontamination of equipment and buildings. Train 2 was designed to treat water in the raffinate pits.

The first batch of treated water from Train 1 was released to the Missouri River in May 1993. Train 2 was started in September 1995. With both systems working, the plant treated and released 222 million gallons of water.

The site water treatment plant was decommissioned in May 2000. The plant was dismantled and placed in the disposal cell in June 2000.

A Leachate Collection and Removal System (LCRS) was installed in the disposal cell and started operation on October 2, 2000. The LCRS is connected to a 15,000-gallon sump and piping system, which collects leachate that drains by gravity flow from the disposal cell as long as significant quantities of leachate are being generated from the cell.

Treatment of contaminated water generated during cell closure activities from the LCRS and the Quarry Interceptor Trench, which was designed to collect water for sampling that may migrate from the Quarry, was treated through one of two systems. These systems are known as Train 3 and the Retention Basin Ion Exchange System.

Former Site (top) and Quarry (bottom) Water Treatment Plants

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Please email your questions or comments about the Weldon Spring Site to weldoncomments@gjo.doe.gov